

**REMARKS**

Claims 16-36 are pending in the application. No amendments are being made.

**Claim Rejections - 35 USC 102**

35 USC 102(b) Rejections in view of Kaish et al. (US 5,974,150)

Claims 31-36 and 16-30 were rejected under 35 USC 102(b) as being anticipated by Kaish et al.

However, the Applicant respectfully submits that claim 16 is novel over Kaish et al. because claim 16 includes the following features not disclosed in Kaish et al.:

- i) the identification elements being detectable when illuminated by electromagnetic radiation selected from the group consisting of infrared and ultraviolet,
- ii) but [the identification elements] being indistinguishable from the rest of the object when illuminated with visible light.

The following discussion focuses on these distinguishing features in more detail.

1. the identification elements being detectable when illuminated by electromagnetic radiation selected from the group consisting of infrared and ultraviolet

Kaish is concerned with a method of verifying that an object is genuine in which identification elements in the form of fluorescent dichroic fibers are applied in a random pattern. These fibers are detectable under normal visible light, and there is no suggestion in Kaish that the fibers are only visible under infrared and ultraviolet light. A dichroic material is a material which has the property of having different absorption coefficients for light polarized in different directions. Kaish teaches that it is this property which is used to authenticate the label or object. This is described at column 22, line 58 onwards:

“Thus, at higher levels of authentication, the pattern of the fluorescent dichroic fibers is detected and archived during initial processing thereof (i.e., before the label is circulated). When a particular label is submitted for examination, a detector can be used to ascertain the fibers' position within the paper, as well as its

dichroism, e.g., polarization angle,  $\theta$ . A three-dimensional (i.e., x, y,  $\theta$ ) authentication mechanism can therefore easily be provided by using an imaging device, such as a CCD imaging array, with associated polarizer(s).”

In other words, the dichroism is an essential feature of the disclosure of Kaish, and the information about the fibers which is recorded includes both the position and the dichroism (i.e. the polarization angle).

The Examiner cited the passage at column 19, lines 18-23, as disclosing the use of either infrared or ultraviolet light to illuminate the fibers for detection. It is respectfully submitted that this passage does not disclose the use of infrared or ultraviolet light to illuminate the fibers for detection. The passage reads as follows:

“Materials that are dichroic may have different absorption coefficients for light (i.e., electromagnetic energy, typically ranging from infrared to ultraviolet wavelengths) polarized in different directions.”

The passage is therefore simply defining what “dichroic” means, and the passage in the parenthetical is simply defining what “light” means, and states that light is electromagnetic energy which typically ranges from infrared to ultraviolet wavelengths. This is not a disclosure that one should use only infrared or ultraviolet light in the detection process. In fact the only detection light sources disclosed in Kaish are the laser beam, flashlamp or LED 39 in Fig 2 (see column 23, lines 27-30) and the optical line scanner in Fig 3 (see column 23, lines 43-49). None of these light sources produces only infrared or ultraviolet light. Hence Kaish does not disclose that the fluorescent dichroic fibers are detectable when illuminated by electromagnetic radiation selected from the group consisting of infrared and ultraviolet.

In contrast the present invention uses either infrared or ultraviolet light to identify the detection elements. No further measurements are required, for example the measurement of dichroism required by Kaish. The position of the identification elements alone, with reference to the sub-area and reference point, is sufficient to verify whether the object is genuine.

2. the identification elements are indistinguishable from the rest of the object when illuminated with visible light

In the method of Kaish the fluorescent dichroic fibers are distinguishable from the rest of the object when viewed with visible light. Indeed this is a required property of the method of Kaish, which states at column 12, lines 17 to 32:

“Dichroic polymer fibers may also form part of the object to be authenticated. These fibers are relatively difficult to produce, and their embedding into paper or woven goods requires special equipment. Further, **these fibers are observable with the naked eye**, discouraging low sophistication attempted counterfeiting of certificates without this feature. This system allows for instant field verification of labels while maintaining a high level of security against counterfeiting by making the reverse engineering process extremely difficult and expensive. No two labels are ever alike, yet they can be produced very economically. In order to determine if the imprinted code corresponds to the certificate itself, the fiber pattern, which is completely random, is illuminated by a light and read by a scanner. The resulting pattern is then compared to the encoded pattern to determine authenticity.” (emphasis added)

The Examiner cited the passage at column 13, line 1, as disclosing that the dichromic polymer fibers are indistinguishable from the rest of the object when illuminated with visible light. It is respectfully submitted that this passage does not disclose that that dichromic polymer fibers are indistinguishable from the rest of the object when illuminated with visible light. The full passage, which starts at column 12, line 63, reads as follows:

“In one embodiment, the object itself is labeled with one or more dichroic fibers, whose location, orientation, or characteristics are encoded on the certificate. For example, an apparatus may sew a small number of dichroic fibers into the garment at unique or semi-unique positions. These fibers may be nearly invisible, yet are easily detectable by specialized detection apparatus; alternately, the dichroic fibers may be visibly presented, such as to form a logo. Such a logo may present distinctive visible features, allowing lay persons to authenticate the object, at least on this level of security.”

The description is of a garment having dichroic polymer fibers sewn into it. The fibers are described as being “nearly invisible”. “Nearly invisible” does not mean “invisible”. If something is “nearly invisible”, it must be visible, since visibility is an absolute. An object is either visible or invisible, it cannot be something between. In this case the fibers are “nearly

invisible” because they are partially covered by other fibers in the garment. However they are still clearly detectable under visible light, because they are easily detectable by “specialized detection apparatus”. For the apparatus to work properly, portions of the fibers must be visible so that the dichroism can be measured. Hence Kaish does not disclose that the dichromic polymer fibers are indistinguishable from the rest of the object when illuminated with visible light.

Hence, since Kaish does not disclose either features i) or ii) described above, claim 16 is novel over Kaish et al.

Similar reasoning applies to claim 31, which has features corresponding to the above two differentiating method features i) and ii). Hence, claim 31 is also novel over Kaish et al.

#### The other dependent claims

Claims 17 to 30 are all dependent on claim 16 and claims 32 to 36 are all dependent on claim 31. Hence, these claims are also novel and non-obvious, at least by virtue of their dependencies.

#### **Request for Allowance**

Based on the foregoing, reconsideration and withdrawal of the rejection of the claims in this application is respectfully requested.

It is thus believed that the application is now allowable and notification to this effect is earnestly solicited. Should the Examiner have any questions or comments regarding Applicants' amendments or response, he is asked to contact Applicants' undersigned representative at (215) 988.3303.

Please direct all correspondence to the below-listed address. If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0573.

Respectfully submitted,

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